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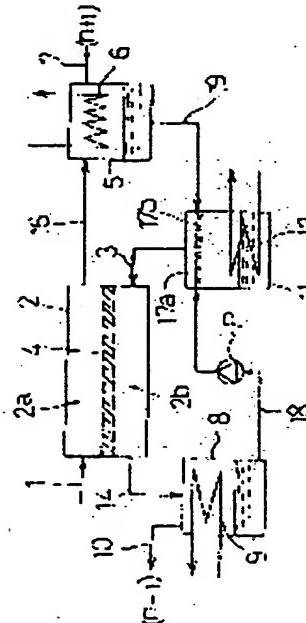
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(54) CONCENTRATION OF HEAVY CARBON METHANE

(57) Abstract:

PURPOSE: To highly concentrate heavy carbon methane in methane gas through simple operation by increasing the proportion of heavy carbon methane with the help of a gas permeable membrane and condensing propane gas through cooling.

CONSTITUTION: Methane gas and propane gas are interdiffused through a gas permeable membrane 4. Next, methane gas is supplied to the first separation tank 5 so that mainly propane is liquefied and separated. After this process, methane gas produced by concentrating heavy carbon methane is supplied as a feedstock to the (n+1) stage of concentration process from a flow passage 7. In addition, propane gas is supplied to the second separation tank 8 for liquefaction and separation. Methane gas produced through the concentration of light carbon methane is supplied as a feedstock to the (n-1) stage of concentration process from a flow passage 10. Further, liquefied propane from the first and second separation processes is supplied to an evaporation tank 11 for evaporation and the vapor is supplied to an interdiffusion process from a flow passage 3. Thus the same methane gas is subjected to a repeated cycle of the above concentration processes to obtain a required high concentration of heavy carbon methane in methane.



LEGAL STATUS